

EDUCATIONAL EXAMINERS BOARD[282]

Notice of Intended Action

Twenty-five interested persons, a governmental subdivision, an agency or association of 25 or more persons may demand an oral presentation hereon as provided in Iowa Code section 17A.4(1)“b.”

Notice is also given to the public that the Administrative Rules Review Committee may, on its own motion or on written request by any individual or group, review this proposed action under section 17A.8(6) at a regular or special meeting where the public or interested persons may be heard.

Pursuant to the authority of Iowa Code section 272.2, the Board of Educational Examiners hereby gives Notice of Intended Action to amend Chapter 13, “Issuance of Teacher Licenses and Endorsements,” Iowa Administrative Code.

This amendment is proposed because of input from the field and issues generated by the Basic Educational Data System (BEDS) reporting. The first change revises wording in paragraph 13.28(17)“e” and more specifically defines what is required to obtain the basic science endorsement. The second change removes the physical science endorsement option in paragraph 13.28(17)“f” that has been incorporated in other endorsement areas. The third change strikes paragraph 13.28(17)“h” to remove an outdated endorsement that should have been removed several years ago. The last change spells out in more detail the requirements for the all science endorsement in paragraph 13.28(17)“i” and also decreases the total number of hours needed for an all science endorsement from 48 to 36.

Any interested party or persons may present their views either orally or in writing at the public hearing that will be held Wednesday, September 26, 2012, at 1 p.m. in Room 3 Southwest, Third Floor, Grimes State Office Building, East 14th Street and Grand Avenue, Des Moines, Iowa.

At the hearing, persons will be asked to give their names and addresses for the record and to confine their remarks to the subject of the proposed amendment. Persons who wish to make oral presentations at the public hearing may contact the Executive Director, Board of Educational Examiners, Grimes State Office Building, East 14th Street and Grand Avenue, Des Moines, Iowa 50319-0147, or at (515)281-5849, prior to the date of the public hearing.

Any person who intends to attend the public hearing and requires special accommodations for specific needs, such as a sign language interpreter, should contact the office of the Executive Director at (515)281-5849.

Any interested person may make written comments or suggestions on the proposed amendment before 4 p.m. on Friday, September 28, 2012. Written comments and suggestions should be addressed to Kim Cunningham, Board Secretary, Board of Educational Examiners, at the above address, or sent by e-mail to kim.cunningham@iowa.gov, or by fax to (515)281-7669.

After analysis and review of this rule making, no adverse impact on jobs has been found.

This amendment is intended to implement Iowa Code chapter 272.

The following amendment is proposed.

Amend subrule 13.28(17) as follows:

13.28(17) Science.

a. Science—basic. K-8.

(1) No change.

(2) Competencies Pedagogy competencies.

1. to 4. No change.

b. to d. No change.

e. General Basic science. 5-12. ~~Completion of 24 semester hours in science to include coursework in biological science, chemistry, and physics.~~ Completion of 24 semester hours of credit in science to include the following:

(1) Six semester hours of credit in earth and space science to include the following essential concepts and skills:

1. Understand and apply knowledge of energy in the earth system.
2. Understand and apply knowledge of geochemical cycles.
- (2) Six semester hours of credit in life science/biological science to include the following essential concepts and skills:
 1. Understand and apply knowledge of the cell.
 2. Understand and apply knowledge of the molecular basis of heredity.
 3. Understand and apply knowledge of the interdependence of organisms.
 4. Understand and apply knowledge of matter, energy, and organization in living systems.
 5. Understand and apply knowledge of the behavior of organisms.
- (3) Six semester hours of credit in physics/physical science to include the following essential concepts and skills:
 1. Understand and apply knowledge of the structure of atoms.
 2. Understand and apply knowledge of the structure and properties of matter.
 3. Understand and apply knowledge of motions and forces.
 4. Understand and apply knowledge of interactions of energy and matter.
- (4) Six semester hours of credit in chemistry to include the following essential concepts and skills:
 1. Understand and apply knowledge of chemical reactions.
 2. Be able to design and conduct scientific investigations.
- ~~f. *Physical science.* 5-12. Completion of 24 semester hours in physical sciences to include coursework in physics, chemistry, and earth science.~~
- ~~g. No change.~~
- ~~h. *All science I.* 5-8. The holder of this endorsement must also hold the middle school endorsement listed under rule 282—13.27(272).~~
- ~~(1) *Required coursework.* Completion of at least 24 semester hours in science to include 6 hours in chemistry, 6 hours in physics or physical sciences, 6 hours in biology, and 6 hours in the earth/space sciences.~~
- ~~(2) *Competencies.*~~
 - ~~1. *Understand the nature of scientific inquiry, its central role in science, and how to use the skills and processes of scientific inquiry.*~~
 - ~~2. *Understand the fundamental facts and concepts in major science disciplines.*~~
 - ~~3. *Be able to make conceptual connections within and across science disciplines, as well as to mathematics, technology, and other school subjects.*~~
 - ~~4. *Be able to use scientific understanding when dealing with personal and societal issues.*~~
- ~~i. *All science II.* 9-12.~~
- ~~(1) *Required coursework.*~~
 - ~~1. *Completion of one of the following endorsement areas listed under subrule 13.28(17): biological science 5-12 or chemistry 5-12 or earth science 5-12 or physics 5-12.*~~
 - ~~2. *Completion of at least 12 hours in each of the other three endorsement areas.*~~
- ~~(1) *Completion of 36 semester hours of credit in science to include the following:*~~
 - ~~1. *Nine semester hours of credit in earth and space science to include the following essential concepts and skills:*~~
 - ~~• *Understand and apply knowledge of energy in the earth system.*~~
 - ~~• *Understand and apply knowledge of geochemical cycles.*~~
 - ~~• *Understand and apply knowledge of the origin and evolution of the earth system.*~~
 - ~~• *Understand and apply knowledge of the origin and evolution of the universe.*~~
 - ~~2. *Nine semester hours of credit in life science/biological science to include the following essential concepts and skills:*~~
 - ~~• *Understand and apply knowledge of the cell.*~~
 - ~~• *Understand and apply knowledge of the molecular basis of heredity.*~~
 - ~~• *Understand and apply knowledge of the interdependence of organisms.*~~
 - ~~• *Understand and apply knowledge of matter, energy, and organization in living systems.*~~
 - ~~• *Understand and apply knowledge of the behavior of organisms.*~~

- Understand and apply knowledge of biological evolution.
 - 3. Nine semester hours of credit in physics/physical science to include the following essential concepts and skills:
 - Understand and apply knowledge of the structure of atoms.
 - Understand and apply knowledge of the structure and properties of matter.
 - Understand and apply knowledge of motions and forces.
 - Understand and apply knowledge of interactions of energy and matter.
 - Understand and apply knowledge of conservation of energy and increase in disorder.
 - 4. Nine semester hours of credit in chemistry to include the following essential concepts and skills:
 - Understand and apply knowledge of chemical reactions.
 - Be able to design and conduct scientific investigations.
- (2) Competencies Pedagogy competencies.
1. to 4. No change.